UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

Project	Date	Author

TITLE

1939 FOREST INSECT SURVEY, CLEVELAND NATIONAL FOREST

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by
S. T. Carlson
Berkeley, California
November 29, 1939

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SUBJECT—

INDEX NO.—

Forest Insect Laboratory
Berkeley, California
November 29, 1939

1939 FOREST INSECT SURVEY, CLEVELAND NATIONAL FOREST

APPROVED BY:

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SUBMITTED BY:

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Assistant Conservationist

1939 FOREST INSECT SURVEY, CLEVELAND NATIONAL FOREST

The 1939 forest insect survey of the Cleveland National Forest was made by Senior Entomologist Miller and Assistant Conservationist Carlson of the Forest Insect Laboratory, Berkeley, California, November 9-12, 1939. The entire cost of the survey was borne by the Forest Insect Laboratory. Ranger Stevensen of the Descanso Ranger District assisted in the survey of that district.

METHOD OF SURVEY

A general reconnaissance of the main forest types was made by the Forest Insect Laboratory in April 1939. As a result of this survey, units of the Descanso and Palomar Ranger Districts havebeen set up and mapped. The present survey was conducted by making counts from road traverse and vantage points. Infested trees were sampled in various parts of the area so that it was possible to determine what insects were causing damage.

GENERAL CONDITIONS

The forest insect conditions of the forest as a whole are favorable. Endemic infestations prevail on many of the areas. There has been an outbreak of group killing surrounding the 1938 Julian burn; the flathead infestation in the Lagunas Recreational Area has subsided somewhat, but still requires maintenance control work.

CHARACTER OF INFESTATION

The infestation on the Palomar District consists of the loss of an occasional tree from attacks by the western pine beetle, Dendroctonus brevicomis Lec. The group kills around the Julian burn also have been a result of attacks by the western pine beetle, although the pine engraver beetle, Ips spp., initiated many of the attacks which were confined to the tops of the trees.

The infestation on the Lagunas Recreational Area is largely one of the flatheaded borer, Melanophila spp. (probably M. californica Van Dyke) in immature Jeffrey pine. Examinations made show that the currently infested trees have been infested with incipient flathead larvae and that other trees not yet dying are also infested with these borers. This infestation is considered to be a hold over of incipient flathead larvae in trees attacked two and three years ago. The development of the incipient brood to fast growing larvae and mature beetles is occurring annually, with the resultant loss of the infested trees. It appears that if rigid control is maintained on this area for several years, reinfestation would be prevented and the infestation would be reduced to endemic status.

CONDITIONS ON UNIT AREAS

A. Lagunas Infestation Area (see map in appendix)

1. Volcan unit. No examination made.

2. Julian Unit. Infestation epidemic. A sudden increase of infestation has occurred here, surrounding the 1938 burn. Eight large groups of ponderosa pine containing 5 to 20 trees each have been observed. The attacks are being made by the pine engraver beetle and western pine beetle. The 1939 loss is estimated to be 175 trees. Control recommended.

3. Pine Hills. Infestation endemic. Estimated 1939 loss is 20 trees.

4. Cuyamaca Rancho State Park. Infestation endemic. The 1939 loss is estimated to be 10 trees.

5. Lagunas Unit. Infestation continuing in old centers. Losses from flatheads in the intensively used areas have continued this year. Trees of intermediate sizes are being killed as previously explained. The 1939 loss is estimated to be 300 trees. Annual control action is recommended for this area as long as this holdover infestation continues.

6. Pine Valley Unit. Infestation is epidemic. The infestation here is similar to that in the Lagunas Unit. The 1939 loss is estimated at 25 trees. Control recommended.

7. Corte Madera Unit. Infestation endemic. A few old mature trees are being killed by flathead attacks. A scale infestation on Jeffrey pine in the vicinity of the home sites was observed. This scale (Matsucoccus spp.) causes the death of twigs, small branchlets and occasionally an entire limb. The fading foliage of the dying parts known as "flags" produce an unhealthy appearance of the tree and to the casual observer might be attributed to other insects. However, no trees are dying from this cause. The 1939 loss due to bark-beetles and flatheads is estimated to be 10 trees. Because of the limited forest growth in this unit and the value placed upon trees, control is recommended.

B. Mt. Palomar Infestation Area (see map in appendix)

1. French Valley Unit. Infestation endemic. The 1939 loss is estimated to be 5 trees.

2. Palomar. Infestation endemic, and is mostly located along the recently constructed road to the new observatory. The

1939 loss is estimated to be 15 trees. Control recommended because of high value of this cover to the observatory development.

3. Mendenhall Unit. No infestation observed.

4. Dyche Valley. Infestation endemic. The 1939 loss is estimated to be 10 trees.

5. Lost Valley. Not examined. Ranger Hayward reports that infestation this year consists of flathead and Ips attacks in young growth. He estimates the 1939 loss to be 20 trees.

SUMMARY OF UNIT LOSSES - 1939

Infestation Area	Unit	Estimated Seasonal loss No. trees	Action Recommended	Area Loss No. Trees
	Volcan	Not Examined.		
	Julian	175	Control	
	Pine Hills	20	None	
Lagunas	Cuyamaca Rancho State Park	10	None	540
	Lagunas	300	Control	
	Pine Valley	25	Control	
	Corte Madera	10	Control	
	French Valley	10	None	
	Palomar	15	Control	
Mt. Palomar	Mendenhall	0	--	55
	Dyche	10	None	
	Lost Valley	20	None	
Total		595		595

RECOMMENDATIONS

The relatively high value of forest tree growth in certain portions of this forest justifies artificial control action. On this basis, artificial control by the peel and burn method, to be completed by April 15, 1940, has been recommended for the following areas:

Infestation Area	Unit	Area (acres)	Estimated No. Trees* to be Treated
Lagunas	Julian	1,500	175
	Lagunas	10,000	225
	Pine Valley	200	15
	Corte Madera	300	10
Mt. Palomar	Palomar	300	10
Total		12,300	435

*These estimates are based on (1) the expected ratio of winter brood trees to the number of summer brood trees which were visible at the time of the survey, and (2) the faded and fading trees in flathead infestation centers. The actual number of trees can be determined only by a complete spotting survey of the area.

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FOREST INSECT LABORATORY - BERKELEY, CALIFORNIA

1939
FOREST INSECT SURVEY
LAGUNAS INFESTATION AREA

SAN DIEGO COUNTY, CALIFORNIA

SAN BERNARDINO MERIDIAN

SCALE
in 0 ½ 1 2 3 4 Miles

N

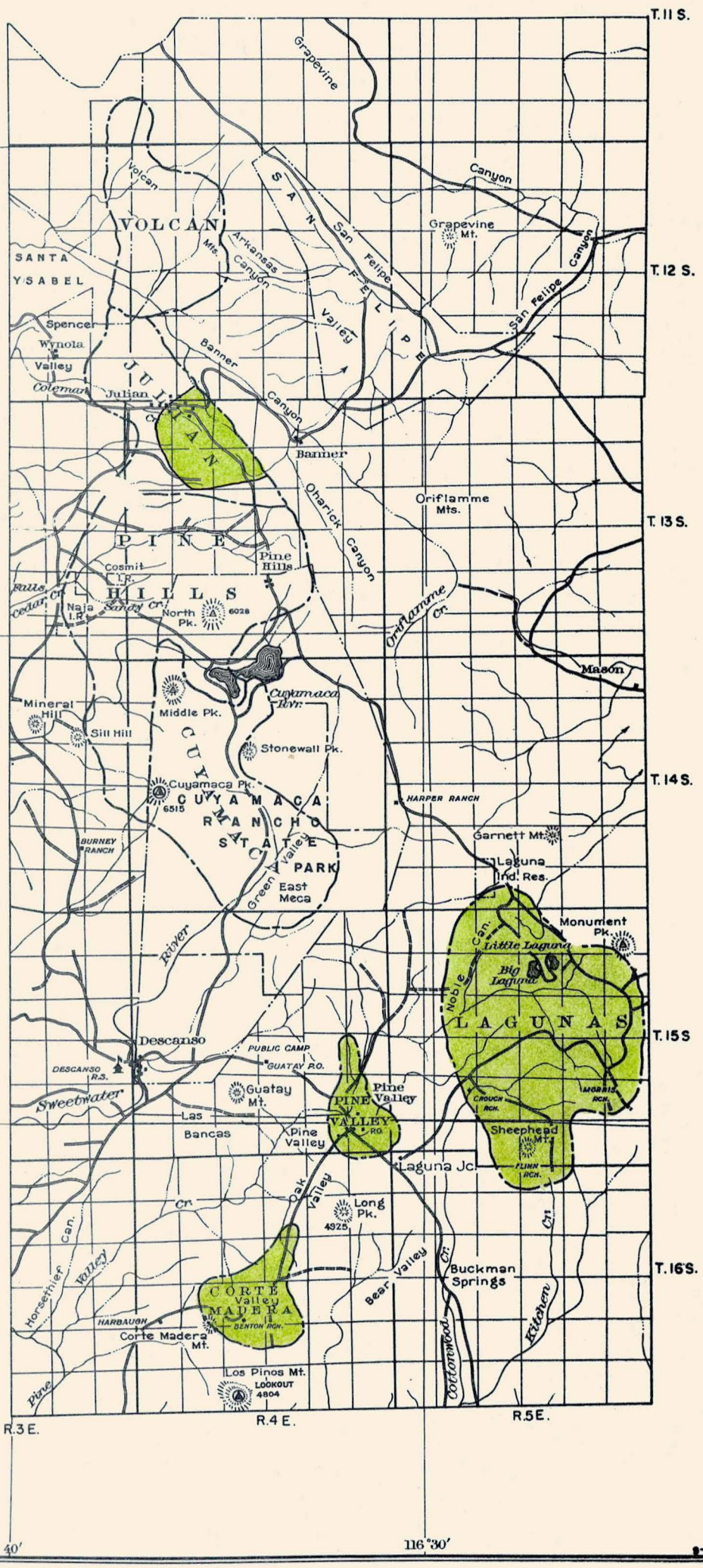
LEGEND

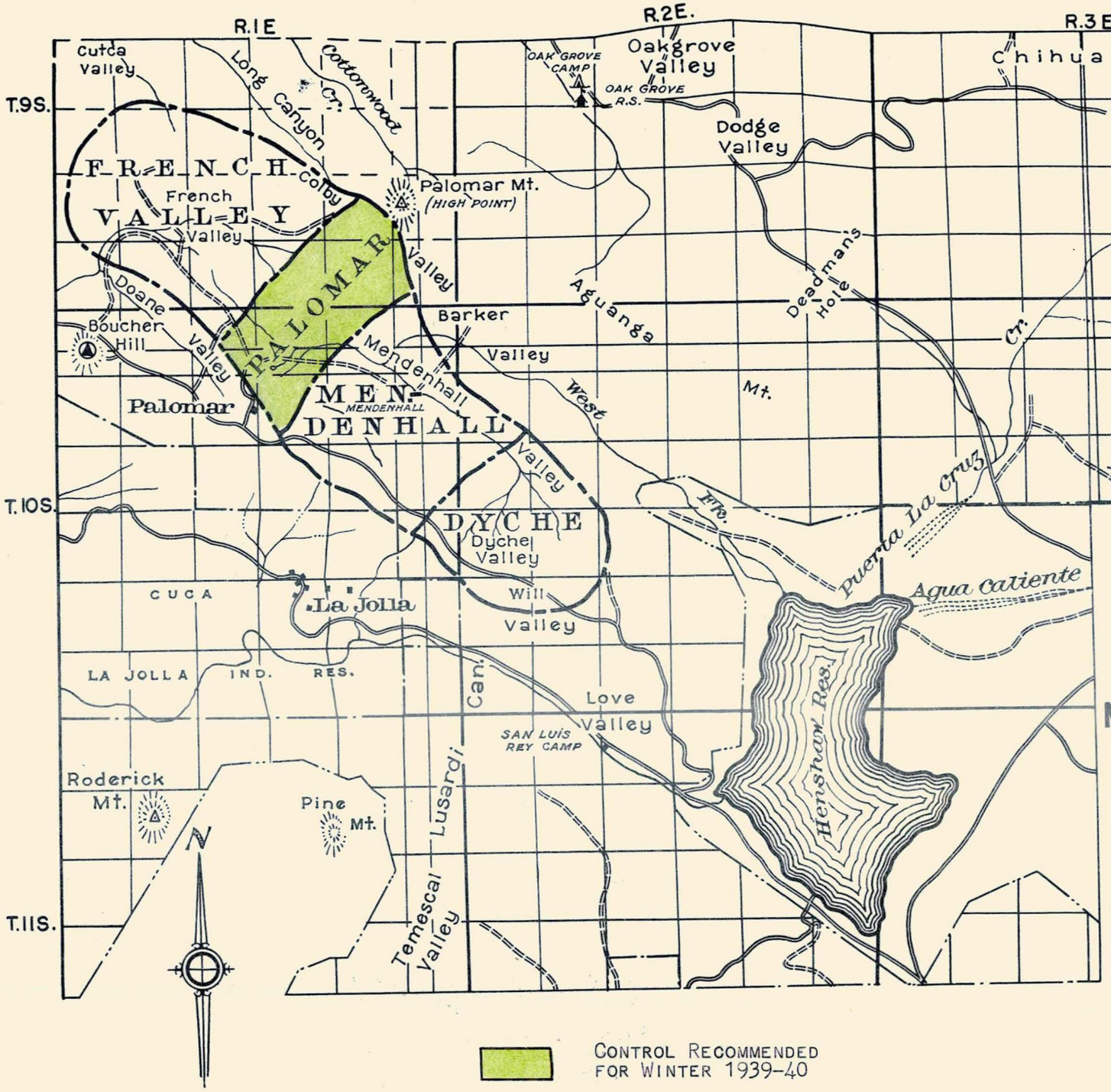
——— UNIT BOUNDARY

ESTIMATED UNIT LOSS 1939

UNIT	No. TREES
VOLCAN	0
JULIAN	175
PINE HILLS	20
CUYAMACA RANCHO STATE PARK	10
LAGUNAS	300
PINE VALLEY	25
CORTE MADERA	10
TOTAL	540

CONTROL RECOMMENDED FOR WINTER 1939-40





CONTROL RECOMMENDED FOR WINTER 1939-40

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1939
FOREST INSECT SURVEY

MT. PALOMAR INFESTATION AREA

SAN DIEGO COUNTY, CALIFORNIA
SAN BERNARDINO MERIDIAN

SCALE

In 0 ½ 1 2 3 4 Miles

LEGEND

UNIT BOUNDARY

ESTIMATED UNIT LOSS 1939

UNIT	No. TREES
FRENCH VALLEY	10
PALOMAR	15
MENDENHALL	0
DYCHE	10
LOST VALLEY	20
TOTAL ...	55

8/28/39